RESEARCH REPORT

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EXECUTIVE SUMMARY

I. ISSUE

Should Maricopa County implement an electronic procurement system, thereby, facilitating electronic commerce?

This study examines the technological and cost implications surrounding the implementation of electronic procurement. Materials Management and the Office of the CIO (Chief Information Office) have jointly requested funding for this technological innovation. The scope of impact would affect all countywide purchases, with the exception of the Clerk of the Court and the courts.

Research indicates electronic commerce is being utilized successfully in the private and public sectors, but is still evolving. A number of technological issues surrounding its mechanics are still being perfected. Principal concerns focus on the transmission of data and documents, Internet security, and the validation of electronic signatures. Presently, Arizona has not legalized the use of electronic signatures to the degree required for comprehensive electronic commerce utilization. This issue will be introduced in the current legislative session.

It appears that the county's existing procurement software and operations are outdated. Processes are fragmented; there is little automation at present. The system does perform very basic tasks. However, bid processing is still a manual effort, performed by buyers using spreadsheets. A number of significant operational efficiencies and cost savings could be realized through the implementation of a paperless procurement system, with a greater emphasis on electronic commerce.

Recommendation:

- **OMB (Office of Management and Budget) recommends the funding of an expert consultant study to commence in Fiscal Year 99/00 (in an amount up to $126,000).**

  The results of the consulting study will include a gap analysis, a quantifiable Return on Investment (ROI), and a detailed business implementation plan. Phase I costs are estimated at this time; actual costs will be based on bid results.

  Upon review of Phase I deliverables, Phase II funding will be considered, relative to other budget issues.

- **It is recommended that Materials Management submit Phase II costs as a budget issue for consideration in the Fiscal Year 00/01 budget cycle.**

  Phase II would fund the software purchase, required hardware, and implementation costs. Should Phase II be approved, it may be funded in FY 00/01, or possibly, FY 01/02. **Phase II costs are tentatively estimated between $1.71 and $2.121 million.**

RESEARCH REPORT

I. ISSUE

Should Maricopa County implement an electronic procurement system, thereby, facilitating electronic commerce?

II. BACKGROUND

The implementation of an e-procurement (electronic procurement) software system has been proposed by Materials Management, in collaboration with the Office of the CIO. The scope of e-procurement would affect all countywide departments except the Clerk of the Court and the courts, who are on their own procurement code.

The move toward paperless procurement is apparent in both the public and private sectors. Its promotion at the federal level was evidenced by the passage of the Government Paperwork Elimination Act in 1998, which directs agencies to provide electronic access to government services and documents by 2003. The statute outlines the legal framework for accepting electronically submitted forms and documents. Issues regarding privacy and the alteration of documents are also addressed.[1] The progression from paper handling to electronic processing is driven by a number of efficiencies and cost savings (to be addressed in detail below).

Coupled with e-procurement is the dramatic increase in e-commerce (electronic commerce), i.e. purchasing over the Internet. The volume of online purchases continues to explode at an exponential rate. According to Cyber Dialogue, the United States processed $7.2 billion in e-commerce in 1997. The U.S. Department of Commerce estimates e-commerce purchases at $300 billion for 2002.[2]

The Technical Aspects of the Electronic Economy

E-procurement involves the computerization of traditional paper-based purchasing and financial activities through the utilization of electronic procurement software. Paper forms and documents including requests for bid, bid submittals, purchase requests, purchase orders and blanket purchase agreements are replaced with

electronic facsimiles or processes. Virtually all purchasing and related tasks are completed online.

Streamlined processes and the elimination of duplicative or nonvalue-added tasks are resultant benefits of e-procurement. Financial advancements can theoretically include replacing Accounts Payable checks with electronic funds

transfer (EFT) and online inventory management tied to purchases and the receipt of property. Equally impressive is the potential for automated financial management -- both accounting and budgeting -- through the linkage of procurement software with financial applications.

E-procurement cost savings are realized through competitive commodity pricing, reduced cycle times, fewer warehousing facilities (due to immediate shipping), and general workflow enhancements. Personnel costs are often reduced as manual tasks (e.g. data entry, creating and tracking purchase documents, issuing checks) are consolidated into streamlined computer processes.

E-commerce is defined as the use of electronic networks and technology for commercial transactions. This embodies the linkage of internal e-procurement software with external electronic networks. Electronic communication (via the Internet) is the medium through which goods and services are marketed, catalogued, inventoried, purchased, and accounted for. The geographic location of both buyer and seller are irrelevant; products can virtually be marketed worldwide.[3]

Before e-commerce can be transacted, an electronic data interchange (EDI) must be established between buyer and seller to facilitate the sharing of data and forms in a universal format. Currently, there are a number of common EDI transaction formats with which vendors are familiar.[4] Internet buying transactions are completed when "agreement is reached between the buyer and seller to transfer the ownership or rights to use goods or services."[5]

An essential element of an e-commerce system is catalog management. Websites displaying pictures, detailed descriptions, and merchandise prices are compiled into a virtual catalog, which is accessed through software links to the Internet. Through the negotiation of master agreements, buyers can request that vendor sites display only buyer-approved commodities (as categorized by Merchant Category Code [MCC]). Catalogs can be managed by either the buying or selling entity. If vendors maintain catalogs, buyer oversight of pricing and available commodities is prudent.

Another major component of e-commerce is payment method. One cannot purchase from the Internet without some type of credit card or account. A common mechanism for business and government is the usage of smart cards or

procurement cards. To control against credit abuse, limits are programmed into cards prior to issuance. Built-in parameters often include number of individual transactions, a ceiling on monthly expenditures, and the types of commodities that can be purchased (defined by MCC's).

Credit cards facilitate EFT as the means of payment, replacing Accounts Payable checks. By employing a central bank (i.e. one account), an entity can pay all procurement card debt through a single, cumulative electronic fund transfer. An added benefit to procurement cards is that banks have the capability to provide detailed MCC reporting, detailing all items purchased on a given credit card.

It is important to note that e-procurement and e-commerce are conducted within a larger electronic business infrastructure. This infrastructure is comprised of computers and other hardware; wire and optical communications and network channels; system and applications software; support systems like Website development and hosting; and human capital (i.e. programmers).[6]

III. DISCUSSION

The Prevalence of E-Commerce in Government

Although increasing, the prevalence of e-procurement and e-commerce in government is still developing. While most governments utilize electronic services to some degree (e.g. access to public information, the payment of fees, voter registration, etc.), the augmentation into e-procurement/e-commerce is in the formative stage.

While progressive governments are increasingly dabbling in e-commerce, comprehensive utilization in the public sector is far from widespread. A 1999 survey shows that integrated service delivery is still evolving; the number of governments providing a wide array of integrated services is still quite small.[7]

At the federal level, the U.S. Army implemented e-commerce in June 1997. CECOM (Communications and Electronics Command) posts bid solicitations and receipt of proposals from an Electronic Bulletin Board to the World Wide Web via the Internet. The paperless acquisition system was created jointly by Academia, Government, and Industry. It was developed in just six weeks with an initial investment of $70,000.[8] The low cost of this customized implementation can be attributed to the fact that it was developed in-house.

NASA (National Aeronautics and Space Administration) also publishes business opportunities on the Internet. Competitive solicitations in excess of $25,000 are

posted at the rate of approximately 2,000 per year. Prior to the electronic system, vendors wishing to do business with NASA could only identify business opportunities through the Commerce Business Daily, mailing lists, or phone calls/visits to the NASA procurement office. Greater access to information has introduced enormous ease in doing business with the agency.[9]

Other agencies employing e-procurement include the Department of Energy (DOE) and the General Services Administration (GSA). The DOE system, implemented in 1998, is extremely comprehensive. Capabilities include electronic requisitioning, routing, and approval; an EDI Gateway for translation of electronic forms; interactive interfaces to its financial system; and hub services to over 4,000 vendor communities.[10] The GSA, most notably, saved $1.5 million and 52,000 staff hours on *one* multi-billion dollar procurement alone in 1999. The contract for providing long-distance telephone, data, and video telecommunications to federal agencies was totally processed online.[11]

At the state level, electronic service delivery is widespread, yet comprehensive e-procurement/e-commerce is still evolving. While nearly all states have integrated service delivery, the sophistication of sites and degree of services offered varies widely.

One of the more acclaimed electronic public delivery systems is Kentucky's KYDirect. KYDirect Services offers the purchase of marriage, birth, and death certificates; voter registration; tax forms; workers compensation information; business registration; and application for professional licensure, among others. The e-commerce side, KYDirect Marketplace, is equally impressive, offering electronic solicitation, the online review of bids, and vendor registration.[12]

Other states practicing comprehensive e-commerce functioning are Florida and Washington. Florida's PurchasingDirect electronically posts bid opportunities, contract information, and a vendors guide.[13] Washington State also appears to be taking advantage of e-commerce, but on a somewhat lesser scale.[14]

At the local level, like the state, integrated service delivery is widespread, while comprehensive e-commerce is still developing. Relatively speaking, only a small number of local governments have advanced to this next level. For purposes of this study, San Diego and Los Angeles Counties offer the greatest comparison.

San Diego County

San Diego County has had enormous success with its BuyNet, implemented in 1996. One technical expert cited it as "…the best model within a public entity…."[15] Operations are efficient and systematic. Authorized purchasers create on-line requisitions using corresponding commodity codes. The requisition then flows

electronically to the procurement office, where it appears on a buyer's computer. Software converts the requisition to a solicitation, which is adjusted by the buyer and than posted to Buynet. Notice of the solicitation is then e-mailed to registered vendors who provide the commodities required.[16]

Vendors respond to the solicitation by completing the blanks of the online form, add their prices, and comments. The solicitation is then routed back to the procurement office. When the bid closes, the software converts all bid information into a spreadsheet, does mathematical calculations, and then sorts the bid data listing the lowest bid first. Next, the buyer chooses the bidder and an electronic purchase order is created for approval. Notification of the award is e-mailed to all bidders, as well as being posted on the county's Website.[17]

Buynet has resulted in outstanding efficiencies for the county. One buyer can now do the work previously required by five. Staff is only required to input purchasing and commodity data once, reducing the occurrence of keypunch errors. Quicker notification of awards reduces the number of protests. Further, volumes of transactional information are available online, effectively replacing the vendor phone calls requesting information that were required previously.[18]

Los Angeles County

Los Angeles County began the implementation of its e-procurement project approximately eighteen months ago with an initial purchase of $2.2 million. CAMIS (Countywide Acquisition Management Information System) is a marriage of two software elements -- Buysite (an electronic ordering system from CommerceOne) and INFORM (a governmental purchasing system). The benefit of INFORM is that it regulates online purchases for governmental compliance. The drawback is that it has been very difficult to successfully integrate the two systems. Contributing factors are that INFORM is a highly structured application and the county has an early version of Buysite with somewhat limited functionality.[19]

Other impediments to the project encompass interfacing with the existing financial system, catalog management, and sheer volume. Los Angeles County employs 80,000 employees, manages 7,000 master agreements, and purchases $850 million in commodities annually. County government encompasses forty departments and six hospitals.[20]

Of particular interest to this study is the issue of catalog management. This issue is universal to public and private practitioners of e-commerce. Los Angeles County has an agreement with CommerceOne in that the software vendor (in conjunction with commodity vendors) is responsible for the commodity coding process (i.e. pictures, descriptions, and pricing of wares). The difficulty is attributed to commodity vendors who are struggling with the new technology.[21]

Resultant issues for buyers center around getting descriptions which are accurate enough to identify the right commodity and the provision of agreed-upon pricing on the Websites.[22] Problems can often be resolved through employing a content broker middleman (service providers who specialize in catalog management). [23] While having vendors maintain electronic catalogs takes the burden off buyers, oversight by purchasing personnel is advisable to ensure correct pricing.

Currently, forty Los Angeles County buyers are utilizing the e-procurement system in some capacity. Further expansion to new departments was put on hold, to concentrate efforts on the e-procurement/financial system interface (the ability to pass an accounting string) and to build the electronic catalog. While still doing product research on the Internet, buyers are not buying off the Internet presently.[24]

In summary, the new CAMIS Project Director concludes that the implementation of e-commerce hasn't been as successful as initially hoped for, but feels that it will be successful in the future. He suggests that anyone planning to implement e-commerce be very thoughtful and thorough from a technical viewpoint. Primary considerations include: examining the overall operational environment from a policy and procedural standpoint; laying the groundwork for financial controls; and studying approval and authority assignments.[25]

Maricopa County Procurement as it Exists Today

Maricopa County (MC) purchased approximately $130 million in goods last year.[26] The county utilizes an AMS financial system (Advantage 2000), which contains the Extended Purchase subsystem (the procurement element). It is not a paperless system and was first implemented in 1993. Various upgrades have been installed in recent years. The software is functional, but provides limited capability as compared to e-procurement. It is not a relational database; therefore, duplicative data entry contributes to keying errors. The system is also limited because it is not GUI (Graphical User Interface) based; it is text based. Therefore, it is tedious to operate as compared to a Windows-based system.

Operations and analysis demand extensive manual intervention. Few standard reports exist, so data extraction is manually intensive and data integrity is less than reliable. Work processes can be difficult. Reporting can require the use of as many as six separate software systems. One time and motion study performed by CIO and Materials Management shows that the processing of small purchases under $1,000 requires twenty-two steps in the present scenario, but would require about seven with e-procurement.

As noted, purchasing processes are not systemic, but instead, rather disjointed. The purchasing system provides the following capabilities: it tracks purchase requisitions, purchase orders, and commodity ordering. Upon receipt of items, a payment voucher is automatically created.

The bid module has never been implemented because it is not functional. Solicitations for bid are disseminated in four ways (three are paper and one electronic): the Arizona Gazette; a quasi-government sponsored bidsource publication; a second publication which is primarily marketed to small, minority,

and women-owned businesses; and the MC Materials Management Website.

Bid pricing is done on individual spreadsheets. Vendors submit bids on spreadsheets (both paper copies and diskette). The data is then downloaded to a meta-spreadsheet which is manually manipulated by the buyer. The buyer awards the purchase of line items to one or more bidders, usually modifying the original spreadsheet data provided into a contract format. Generally, four or five templates are used for this purpose; one standard P.O. (purchase order) form is not used.

MC is beginning to delve into e-commerce. County employees are doing basic product research and recently began consortium buying utilizing the Internet. Consortium buying is when groups of businesses or governments form a consolidated buying unit and "piggyback" off each other's contracts. Obvious benefits are better pricing through bulk purchases and the negotiation of blanket contracts, which can be used repeatedly.

Materials Management is practicing consortium buying through the WSCA (Western States Contracting Alliance) multi-state computer equipment-purchasing contract. Fifteen states are currently participating.[27] MC has
purchased about 150 computers to date, at a saving of 1.5% - 2.0% per unit under previous prices. Increased consortium buying, and related savings, would be realized if comprehensive e-procurement were implemented.

The county is also practicing successful e-commerce at the micro level with its just-in-time office supplies contract with Office Depot. Approximately 40% of MC employees use the service and it has been operational for about two years. The volume of purchases on the contract is approximately $3 million annually.[28] The county does not presently have the computer infrastructure to support the online catalog, so it is housed by the vendor. Employees access the online catalog, view products, and place orders through the county Intranet that is linked to the vendor's Internet site. Delivery is generally within twenty-four hours.

The county has also dabbled in the e-commerce arena with its P card. The procurement card is issued to employees for ease in making purchases. Cards are

preprogrammed with MCC's, which define what types of items can be charged. While there is a countywide procedure on P card usage, specific parameters are set by respective departments. When users deviate from county policy, their cards may be further restricted by Materials Management in terms of MCC, dollars, vendor, etc. Most cardholders are required to list individual transactions in a log, which are validated against monthly electronic reporting provided by SmartData software. Abuses have been minimal and are generally isolated incidents.

P card purchasing is currently estimated at $6 million annually. Some users are purchasing off the Internet. It is forecasted to increase to $20 to $25 million in volume over the next twelve to eighteen months.[29] One Accounts Payable position has been eliminated as a result of P card efficiencies. The outstanding benefit of the service is that volumes of small purchase orders and Accounts Payable checks have been eliminated. The county writes only three checks to the bank monthly for P card purchases.

In summary, the MC purchasing system is functional, but outdated, and clearly limited by infrastructure shortcomings. The county has taken incremental steps toward e-commerce with its consortium buying, just-in-time contract, and P card program. Both the P card and just-in-time contract have been successful, thus far, although both are still being phased in and neither is a totally exclusive service. The consortium buying is in the very early stage of utilization. Based on existing systems, significant investment and effort would be required to upgrade to a comprehensive e-commerce capability.

IV. REQUEST

Materials Management Division and the CIO have requested funding for the purchase and implementation of an electronic procurement software system. Strides have been made regarding software capabilities and costs from working in collaboration with ASU (Arizona State University). However, the funding request is not firm at this time. MC quotes could prove slightly less than those provided for the ASU proposal; ASU requested 2,400 seats while MC would require only about 400.

The funding request is detailed below:

SOFTWARE COSTS: (YEAR 1)

ONE of the following could be chosen:

AMS	$ 750,000*
Clarus	800,000*
CommerceOne	850,000*
Anderson	900,000*

Ariba 1,200,000*

TOTAL To Be Determined

(Costs are approximations and were taken from the ASU bids; firm quotes will be available after MC goes out on bid.)

ASSOCIATED COSTS: (YEAR 1)

(Costs were provided by Ben Armstrong, CIO)

Consulting	$ 126,000*
Implementation	675,000*
Hardware	150,000*
TOTAL	**$ 951,000**

Based on the above numbers, the Year 1 cost impact could range from $1,701,000 to $2,151,000 depending on the software chosen.

TOTAL COSTS: (YEAR 2) and subsequent years

Software Maintenance **$ 15,000***

***Estimated**

Staffing requirements are uncertain at this time; it is possible that Materials Management may require a few additional staff (IT and purchasing areas) depending on the type of software selected.

Potential Cost Savings with E-Commerce:

Limited firm data exist on the proposed implementation. Every computing environment is unique, and the level of success and difficulty associated with a future software implementation is extremely intangible. Therefore, ROI (Return On Investment) is difficult to predict. Measuring e-commerce transactions is further complicated because of the newness of the technology.[30]

The most reliable data available to the county focus on cost per transaction and check processing. Therefore, an ROI model has been developed using these

statistics. The following ROI is not scientific, but only a model based on industry norms. Although actual numbers have been used, the level of success relative to the implementation is merely a guesstimate.

PROJECTED RETURN ON INVESTMENT
National Industry Averages
Applied to Maricopa County Actuals

YEAR	2000	2001	2002	2003
Total MRO Spending	$ 135,450,000	$ 142,222,500	$ 149,333,625	$ 156,800,306
# of MRO Requisitions	11,809	12,400	13,020	13,671

1. Reduction in Cost Per Transaction (based on national Industry averages)

	Cost per P.O.			
2000	$100			
2001	$65	434,000		
2002	$30		911,400	
2003	$30			956,970

2. Reduction in Number of Accounts Payable checks, replaced by EFT (# of checks and cost per check provided by Victoria Prins, Finance)	$ 247,200	$ 370,800	$ 370,800
ESTIMATED SAVINGS PER YEAR	**$ 681,200**	**$ 1,282,200**	**$ 1,327,770**

The national average for processing a single purchase order is estimated between $80 and $125.[31] One analysis performed by the CIO estimates MC's cost to process a purchase order at $111 per transaction, thus, validating the average. For the purpose of this model, a conservative $100 cost per transaction is assumed. Total value of MRO (Material Requisition and Ordering) spending and number of MRO purchases are based on last year's actual numbers, provided my Materials Management, inflated at the rate of 5% per year.

For lack of better knowledge, it is assumed that MC would attain the industry ideal of $30 cost per P.O. within two years after implementation. Assuming that the software were implemented in 2000, half of P.O. transaction cost savings ($35 per) would be realized in 2001, with a full $70 reduction per transaction cost in 2002 and subsequent years.

The model also assumes that the existing cost for Accounts Payable check processing (60,000 checks per year at a cost of $8.24 each) would be reduced by 50% in 2001 (30,000 checks) and 75% (15,000 checks) in 2002 and subsequent

years. Because MC employs the services of small vendors, it is not plausible that EFT would replace 100% of Accounts Payable checks.

It is equally conceivable that MC could save added millions annually from resultant operational efficiencies. Included are: greater deployment of strategic purchasing initiatives, better commodity pricing, more aggressive Materials Management analysis (facilitated by improved reporting), and quicker delivery.

For example, economists in Business Week estimate that Internet prices are thirteen percent lower than retail (including shipping costs).[32] Further, case studies show that General Electric gained an additional six to eight days per month for strategic purchasing through reduced paperwork. Cisco Systems (a computer business) saved 17.5% of total operating costs in one year through e-procurement.[33]

Additionally, improved control would be inherent to an integrated purchasing system. The reduction of "maverick" buying (unplanned purchases from non-registered vendors/not buying from existing contracts) should yield significant savings. This behavior is characterized by paying a higher per unit cost than is necessary. It is believed that MC experiences extensive "maverick" buying.

In summary, it is probable that an e-procurement system would pay for itself within two to three years after implementation. This is based on reduced cost per transaction and EFT alone. Additionally, significant savings (millions annually) should be realized thereafter. Better commodity pricing alone could potentially save $10 - $20 million per year.

Performance Measures

In order to gauge the success of an e-procurement/e-commerce business system, the following performance measures could be employed. Comparisons would theoretically focus on measures taken before implementation versus post implementation. Accurate measurement would likely require periodic assessment (e.g. six months after implementation, one year after implementation, two years after implementation, etc.).

- ✓ Cost per purchase order transaction
- ✓ Number of steps/time required to process a purchase order
- ✓ Cost and effort required for Accounts Payable checks versus EFT
- ✓ Level of effort available for strategic planning initiatives
- ✓ Commodity per unit cost savings resulting from competitive pricing

Other Considerations Regarding E-Commerce

As with any new technology, e-commerce is still evolving. Security, privacy, and authentication issues are still concerns. Lack of trust is the most pronounced barrier to the proliferation of e-commerce. Users of the Internet need to know that the people they do business with truly are who they claim to be, and that commitments will be honored.[34]

As a result, Public Key Infrastructure (PKI) technology has emerged. Although still in the engineering stages, it works well in limited environments.[35] California uses Public Key Cryptography for the verification of its digital signatures. It ensures that a signature is unique to an individual, and capable of being verified. Moreover, it is linked to data, so that if the signature is altered, it is invalidated.[36]

Further, an overlying issue for MC that must first be resolved is the legality of electronic signatures in the State of Arizona. House Bill 2622 will be introduced in the current legislative session, which would address PKI technology and the authentication of electronic signatures.[37] The passage of this legislation is imperative before MC can move forward.

Finally, it is important to recognize that the technology is changing quickly. In fact, "…e-commerce and its technology are so dynamic that it is difficult for agencies to adapt quickly enough to embrace the changes." By the time one product or technology is mastered, a new and better one emerges.[38]

V. CONCLUSIONS AND RECOMMENDATIONS

This study demonstrates that much could be gained by implementing e-procurement, further facilitating the use of the larger e-commerce economy.

Although the technology is still relatively new, it has been implemented successfully in a number of public and private sector entities. As shown, the technology is currently being used in varying degrees. Some implementations have proven enormously successful; others have been more difficult.

Software and associated implementation costs vary according to a number of factors: functionality and capability; number of employees with access (software systems are priced according to number of "seats,"); and difficulty in interfacing with related applications. Implementation costs can also be affected by availability of internal IT (Information Technology) staff. For example, the Army CECOM, noted earlier, developed a custom application with an initial cost of only $70,000. In contrast, an entity which is greatly dependent on outside IT expertise could pay as much as $1 million to $3 million for software and implementation.

A number of lessons can be gleaned from the implementations studied. When selecting a software application, one should carefully consider the compatibility of the proposed procurement package with existing functional software. Incompatibilities, and the ensuing difficulties with interfacing, appear to be the largest deterrents to successful implementation.

Funding Recommendations:

OMB supports the county's eventual future advancement into e-commerce technology. However, it is recommended that, should the project be funded, funding would be comprised of two phases. Phase II funding is dependent on the outcome of Phase I.

Phase I Funding

Before Phase I funding occurs, the CIO must put the consulting contract out for bid. Upon review and award of the contract, Phase I will be funded.

- **It is recommended that an amount up to $126,000 (FY 99/00) be set aside in the General Government Consulting Line Item for the funding of Phase I** (subject to the conditions below).

Phase I would encompass the employment of an expert consultant for the purposes of assessing the current environment and writing a detailed business implementation plan.

- **It is recommended for FY 99/00 that the CIO's office examine current funding to see how much of the cost can be absorbed within their existing budget.**

After the award of the consulting bid, the amount of money required for the study (that cannot be absorbed within the existing CIO budget) will be identified in the General Government Consulting Line Item.

Phase II Funding

After review of the consultant's gap study and business plan, the funding of Phase II will be examined. Phase II funding is for the cost of software purchases, implementation, and hardware.

- **It is recommended that Materials Management submit a budget issue for the upcoming FY 00/01 budget cycle for the proposed purchase of e-procurement software and implementation.**

This request will be reviewed relative to other budget issues for the year.

Phase II may be funded, provided that the following criteria are met – the business plan must prove that an e-procurement/e-commerce implementation would prove beneficial, with a demonstrated ROI within two to three years after implementation. The issue surrounding the legality of electronic signatures must also be resolved before moving forward with Phase II.

The technological impact of implementing e-procurement in tandem with the upcoming Finance, Human Resources, and Budget system enhancements must also be reviewed.

- **It is also recommended that the following grant opportunities be explored:**

  - Defense Logistics Agency: Procurement Technical Assistance (PTA) Cooperative Agreement Program, Account 97-0100-0-1-051.

  - Department of Commerce/National Telecommunications and Information Administration: Technology Opportunities Program (TOPS). For further information, contact Stephen J. Downs, Director, at top@ntia.doc.gov.

In anticipation of the implementation, an amount up to the budget issue request from Materials Management may be set aside in General Fund Appropriated Fund Balance (FY 00/01) for tentative funding of Phase II, pending a review of funding priorities during the budget process. If funding is in contingency, the use of this funding will be contingent upon a detailed review of the Phase I business plan and consultant's detail and recommendations.

In the event that the implementation is postponed until FY 01/02, the fund balance may be carried forward until the next fiscal year.

END NOTES

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